ADDITIONS TO AUSTRALIAN MYOPSOCIDAE (PSOCOPTERA)

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Recent collecting has revealed the presence of two new species of Myopsocidae which are described here. Additional new records for other species are also included.

Myopsocus amplus Smithers & Thornton

Material examined. QUEENSLAND: 1 ♀, Barratt Creek, near Daintree, 16.xii.1972 (C. N. Smithers and J. V. Peters); 1 ♀, Buchan's Point, 9.xii.1972 (C. N. Smithers).

Discussion. This is the first record of a true *Myopsocus* Hagen from Australia. Several Australian species have been referred to this genus but Badonnel (1967) satisfactorily defined the characters of the genus and this necessitated transfer of Australian species previously placed in *Myopsocus* to *Phlotodes* (Smithers, 1971). *Myopsocus amplus* has been recorded from several New Guinea localities. The Barratt Creek specimen, although smaller than most New Guinea specimens, corresponds well with them in colouration and genitalic characters.

Phlotodes tropica sp. n.

Female. Colouration (in alcohol). Head pale brown with dark brown markings (Fig. 3). Genae pale with a row of irregular, confluent spots along the lower border of the compound eye and below the antenna base. Scape and pedicel pale brown; flagellar segments 1-3 with short alternating dark and pale sections, a longer pale section at joints. Eyes black. Ocelli pale with black margins adjacent to epicranial suture. Maxillary palp pale with dark brown distal segment. Mesothorax dorsally very pale brown, darker on either side of the antedorsum leaving a pale median band and darker on the lateral lobes leaving pale areas adjacent to the sutures; scutellum brown. Legs pale except for the very dark brown apices of the tibiae and the middle and distal tarsal segments. Fore wings (Fig. 1) hyaline with a mottled pattern in grey; distad of the hyaline band which runs parallel to the wing margin the membrane is a clear golden brown with grey markings; most of the pterostigmal area is pale, translucent. Hind wings hyaline, faintly tinged with grey.

Morphology. Length of body: 4.0 mm. Median epicranial suture distinct. Vertex smoothly rounded with hardly a groove at the median epicranial suture. Antennae with sparse strong, stout setae. Eyes fairly small, hemispherical, applied to the sides of the head, upper margin well below level of vertex. IO/D: 2.3; PO: 0.82. Lacinia with an internal tooth and a row of five, rounded cusps on the external tooth. Measurements of hind leg: F: 0.88 mm.; T: 1.76 mm.; t_1: 0.49 mm.; t_2: 0.7 mm.; t_3: 0.126 mm.; rt: 7:1:1.8; ct: 18, 1, 0. Fore wing length: 4.8 mm.; fore wing width: 1.9 mm. Fore wing (Fig. 1) with margin strongly incurved between branches of M and with strong "pocket" in anal area. Sc long, Rs and M fused for a very short length. Cu_{1a} sinuous before

crossvein to M. Areola postica joined to M by crossvein. Cu_{1b} fairly long. Hind wing length: 3.4 mm.; hind wing width: 1.3 mm. Hind wing with Rs and M fused for a short length. M curving away strongly from the fusion. Epiproct triangular with a transverse band of setae across the middle; there are fine small apical setae. Paraprocts with a large, circular field of trichobothria, adjacent to which arises one large seta and a few tiny setae; ventral margin setose. Subgenital plate triangular with a small, median, rectangular lobe bearing two strong apical setae. Gonapophyses (Fig. 2). Ventral valve with long basal attachment, fairly short and stout, apically serrate on ventral surface; dorsal lobes long, tapering to fine point; external valve with a long basal "petiole" narrowing distally. Sclerification of ninth sternite in form of an irregularly sclerotized ring.

Male. Unknown.

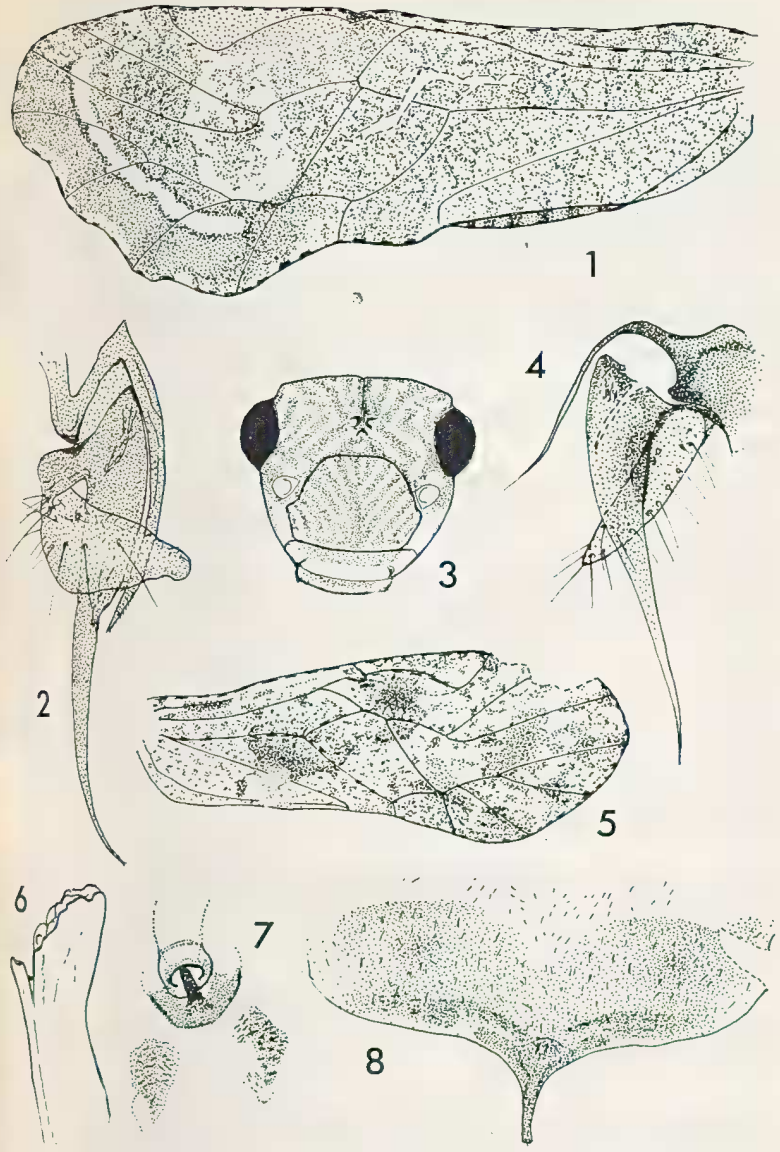
Material examined. QUEENSLAND: 1 ♀ (holotype), 2 miles south of the Crater, Atherton-Ravenshoe Rd., 21.xii.1972 (C. N. Smithers and J. V. Peters). Holotype in Australian Museum.

Discussion. Phlotodes tropica is a remarkable species. The form of the subgenital plate and venation of the hind wings are as in *Phlotodes* Enderlein but the fore wings have the sinuous wing margin and colour pattern typical of species of *Lophopterygella* Enderlein. It is thus intermediate between two genera which have been considered as distinct and easily separable. The fusion of Rs and M in the hind wing is, by definition, a character of *Phlotodes* and *Ph. tropica* is the only species in the genus with strong incurving of the wing margin between the branches of M. When the male of *Ph. tropica* is found it may be necessary to reassess its position and the relationships between the genera of Myopsocidae.

Phlotodes placidula sp. n.

Female. Colouration (in alcohol). Head very pale, with slight suggestion of brownish mark adjacent to median epicranial suture compound eyes an dacross back of vertex. Anteclypeus pale brown in distal half, dark shiny brown anteriorly. Labrum very dark, shiny, brown. Genae pale with faint brown mark below eye and another above mandibular articulation. Eyes black. Ocelli, pigmented along margins adjacent to each other so that the ocellar area stands out darkly in strong contrast to the pale head capsule. Maxillary palps dark, apical segment almost black. Antennae pale brown with colourless sections at joints, the segmentation thus being very distinct. Thorax pale, as head, when seen from above; area of mesothorax adjacent to head dark but not visible from above. Mesothorax laterally very dark brown. Femora very dark brown with a narrow pale band at distal quarter; tibiae pale with very dark tips; basal tarsal segment pale, second and distal segments dark. Fore wings (Fig. 5) hyaline, marked in various shades of brown in complex pattern. Hind wing hyaline with brown veins. Abdomen pale, with some brown mottling; terminal structures very dark brown.

Morphology. Length of body: 2.5 mm. Median epicranial suture distinct. Vertex somewhat grooved medially at suture. Lengths of flagellar segments: f_1: 0.56 mm.; f_2: 0.42 mm. Antennae fine, about as long as



FIGS 1-3. *Phlotodes tropica* sp. n. 1, fore wing; 2, ♀, gonapophyses; 3, ♀, head.
FIGS 4-8. *Phlotodes placidula* sp. n. 4, ♀, gonapophyses; 5, fore wing; 6, lacinia; 7, spermathecal opening; 8, ♀, subgenital plate.

fore wing. Eyes fairly large for a female, reaching a little above level of vertex. IO/D: 0.83; PO: 1.4. Ocelli small. Lacinia (Fig. 6). Measurements of hind leg: F: 0.588 mm.; T: 1.10 mm.; t_1: 0.35 mm.; t_2: 0.056 mm.; t_3: 0.084 mm.; rt: 6.25:1:1.5; ct: 17, 1, 0. Fore wing length: 3.0 mm.; fore wing width: 1.1 mm. Pterostigma with smoothly rounded hind margin, margin concave before apex; Rs and M fused for a length; areola postica meeting M in a point. In hind wing veins fairly faint except for the strongly formed M+Cu_1, M and basal section of Rs. M, after separation from Rs, very weak. Cu_1 recurved just before wing margin. Epiproct lightly sclerotized, more or less triangular, sparsely setose and bearing two setae much longer than others in distal half. Ninth tergite very strongly sclerotized laterally, less so medially. Subgenital plate (Fig. 8). Apex of subgenital plate bears two large setae (not shown in figure). Gonapophyses (Fig. 4). Subgenital plate and gonapophyses are exceptionally heavily sclerotized. Sclerifications around opening to spermatheca (Fig. 7) are more complex than usual for this genus.

Male. Unknown.

Material examined. QUEENSLAND: 1 ♀ (holotype), Lake Placid, 17.xii.1972 (C. N. Smithers and J. V. Peters). Holotype in Australian Museum.

Discussion. The wing pattern and lack of patterning on the postclypeus are characteristic of this species as are the complex sclerifications around the opening to the spermatheca.

Phlotodes australis (Brauer)

Material examined. NEW SOUTH WALES: 5 ♂, 1 ♀, New England National Park, iv.1972 (T. Frazier); 1 ♂, at lamp, in rain forest, Iluka, Clarence River, 24.xi.1970 (D. K. McAlpine); 1♀, Failford, near Taree, 8.i.1972 (M. S. Moulds). QUEENSLAND: 1 ♀, Daintree, 16.xii.1972 (C. N. Smithers and J. V. Peters).

Phlotodes furcatus (Smithers)

Material examined. NEW SOUTH WALES: 1 ♂, Mt. Wilson, 22.iv.1970 (D. K. McAlpine); 1 ♂, 20 miles Glen Innes — Grafton Rd., 20.iv.1970 (D. H. Colless).

Phlotodes incomptus (Smithers)

Material examined. NEW SOUTH WALES: 1 ♀, Scabbin's Flat Creek, near Queanbeyan, 1.iv.1971 (C. N. Smithers).

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References

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